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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,048	04/10/2001	Koichi Tamura	053969/0126	8333

22428 7590 06/18/2004

FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

AHN, SAM K

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 06/18/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,048

Applicant(s)

TAMURA ET AL.

Examiner

Sam K. Ahn

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/10/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2,4 and 6</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The abstract of the disclosure is objected to because it is not limited to a single paragraph. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 1-30 are objected to because of the following informalities:

In claim 1, line 6, delete "threshold" and insert "a threshold".

In claims 1, 9 and 17, lines 9-10, 9 and 11, respectively, delete "said comparison result" and insert "the result of said comparing"

In claims 2, 10, 11, 18, 19, lines 3, 3, 3, 2, 2, respectively, delete "correlation" and insert "a correlation".

In claims 2, 3, 10, 11, 18, 19, lines 3, 3, 3, 3, 3, 3, respectively, delete "signals" and insert "the signals".

In claims 2, 4, 5, 12, 13, 18, 20, 21, lines 4, 4, 3-4, 4, 3-4, 3, 4, 3, respectively, delete "the previous" and insert "a previous".

In claims 3, 11, 19, lines 4, 4, 3, respectively, delete "the current" and insert "a current".

In claim 25, line 3, delete "pealk" and insert "peak".

In claim 26, line 2, delete "serects" and insert "selects".

In claim 26, line 3, delete "cpmpared" and insert "compared".

In claim 26, line 3, delete "tha" and insert "the".

In claims 26, 28 and 30 lines 3, 3 and 3, respectively, delete "equql" and insert "equal".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 9 and 17, lines 7, 7 and 9, respectively, recites the limitation of "comparing an incoming signal". In the preamble, on the other hand, recites the element of "signals incoming ---". Are the two elements equivalent? It appears from analyzing the specification that they are equivalent. However, the claims do not clearly point out and distinctly claim and appear to be indefinite, since comparison seems to be performed on all incoming signals, rather than just one signal.

Furthermore, in the same set of claims, in lines 10, 9 and 11, recite "said signal".

The claim contains incoming signal, compared signal, combined signals and signals. It is unclear and indefinite as to which "said signal" is referring to.

Claims 2-8, 10-16 and 18-39 directly depend on claim 1, 9 or 17.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3, 6, 9, 11 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Li et al. (Li).

Regarding claims 1 and 9, Li discloses a method (see Fig.3) and apparatus (see Fig. 1 and 2) of a demodulation for mobile communication having capability of cyclically selecting signals that meet a predetermined condition out of signals incoming via different paths, combining the signals, and outputting the combined signals, comprising, the apparatus comprises a signal selecting means for comparing an incoming signal with a threshold and for selecting said compared signal according to said comparison result even if said signal does not meet said predetermined condition. (see diamond blocks in Fig.2 coupled to 222A~222K,

and see 307 in Fig.3, note col.6, lines 27-52). Li teaches use of a threshold in a comparison to characterize the incoming signal disclosing that the threshold is set by the system (note col.7, line 40). Therefore, it is inherent that the system of Li would have the threshold setting means in the system in order to generate the threshold.

Regarding claims 3 and 11, Li teaches all subject matter claimed, as applied to claim 1. Li further teaches wherein said threshold setting means sets the threshold based on a correlation value information for the signals selected in the current cycle. (note col.3, lines 43-57)

Regarding claims 6 and 14, Li teaches all subject matter claimed, as applied to claim 1. Li further teaches wherein said threshold setting means sets the threshold as a fixed value. (see 307 in Fig.3 wherein the threshold value is not variable)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 17, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (Li) in view of Kitahara.

Regarding claim 17, Li discloses a method (see Fig.3) and apparatus (see Fig. 1 and 2) of a demodulation for mobile communication having capability of cyclically selecting signals that meet a predetermined condition out of signals incoming via different paths, combining the signals, and outputting the combined signals, comprising, the apparatus comprises a signal selecting means for comparing an incoming signal with a threshold and for selecting said compared signal according to said comparison result even if said signal does not meet said predetermined condition. (see diamond blocks in Fig.2 coupled to 222A~222K, and see 307 in Fig.3, note col.6, lines 27-52). Li teaches use of a threshold in a comparison to characterize the incoming signal disclosing that the threshold is set by the system (note col.7, line 40). Therefore, it is inherent that the system of Li would have the threshold setting means in the system in order to generate the threshold. However, Li does not explicitly disclose the method steps of the control program to control the operation of demodulation is recorded in a recording medium.

Kitahara teaches demodulation of received signals wherein the method steps to perform the steps of demodulation are stored in a recording medium. (note col.20, lines 6-13) Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement recording mediums such as a floppy disk or a CD-ROM for the purpose of using the program in a computer and

perform various function a computer offers, such as testing the program and analyzing the testing data, rather than only implementing the steps in a wireless communication system.

Regarding claim 19, Li in view of Kitahara teach all subject matter claimed, as applied to claim 17. Li further teaches wherein said threshold setting means sets the threshold based on a correlation value information for the signals selected in the current cycle. (note col.3, lines 43-57)

Regarding claim 22, Li in view of Kitahara teach all subject matter claimed, as applied to claim 17. Li further teaches wherein said threshold setting means sets the threshold as a fixed value. (see 307 in Fig.3 wherein the threshold value is not variable)

Allowable Subject Matter

7. Claims 2, 4, 5, 7, 8, 10, 12, 15, 16, 18, 20, 21, 23-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome the claim objections.
8. The following is a statement of reasons for the indication of allowable subject matter:
Present application discloses demodulation of signals received wherein the receiver comprises a comparator that compares the signal level received with a

predetermined threshold and processes the signal further even if the signal is below the threshold. It further recites wherein the threshold is set based on a correlation determined on a previous cycle. Closest prior art, Li teaches all subject matter claimed. However, Li nor Kitahara, solely or in combination teach wherein the threshold is set based on a correlation determined during the previous cycle.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Riddle et al. teach continuous operation of incoming signal when the signal is below a predetermined threshold.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Sam Ahn** whose telephone number is **(703) 305-0754**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306

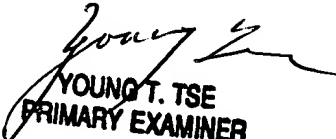
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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Sam K. Ahn
6/13/04


YOUNG T. TSE
PRIMARY EXAMINER